

The Moderating Effect of Organizational Social Phenomenon on the Psychological Well-Being of Military Peacekeepers

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Statement of the Research Problem

Since the end of the Cold War in 1989, and prior to the Global War on Terrorism, the United States Army has been involved in a number of extended (i.e., six-months or longer) overseas deployments, far exceeding the number of military operations during the previous 15-year period (1975-1989). While these operational deployments have ranged across the full spectrum of military operations, the majority of these operations have been for peacekeeping or humanitarian assistance to foreign governments. Following the events of September 11, 2001 individuals in uniform face a high likelihood of deploying overseas in support of both combat and peacekeeping/humanitarian type operations. In light of the increased personnel tempo, military leaders have questioned the toll these deployments have on individual, organizational, and familial functioning (Levy, Thie, Sollinger, & Kawata, 2000). Recent studies on the impact of military peacekeeping operations, for example, have examined the effects of leadership, coping, previous traumatic events, and exposure to traumatic events on psychological well-being (Arincorayan, 2000; Bolton, Litz, Britt, Adler, & Roemer, 2001; Lamerson & Kelloway, 1996). These studies sought to identify not only factors that contributed to the potentially harmful nature of military deployment on psychological well-being, but also the long-term psychological consequences of deployment for both soldiers and family members. Prior research has provided valuable information in helping military planners and health care providers in understanding the relationship between deployment stressors and individual strain reactions. A paucity of research, however, currently exists that attempts to examine the potential buffering properties of social phenomenon in military units in the stress-strain process.

Military peacekeeping and humanitarian missions are environments whereby the potential for experiencing role conflict and psychological ambiguity is commonplace (Britt, 1998). Ambiguity arises from the fact that these environments are novel in terms of mission goals and the geo-political situation that the peacekeepers are asked to

intervene in. In fact, recent studies of soldiers participating in peacekeeping and humanitarian missions point to a relationship between role conflict and mission ambiguity with psychological well-being (Bartone, Adler, & Vaitkus, 1998; Britt, Adler, & Bartone, 2001; Litz, Orsillo, Friedman, Ehlich, & Batres, 1997). In addition to the possibility of mission ambiguity and role conflict, researchers have identified other stressors inherent to peacekeeping operations that may be influenced by organizational phenomenon to include exposure to potentially traumatic events and concerns for family well-being. The problem examined in this study relates to the impact that group level factors, specifically group cohesion, group efficacy (sometimes referred to as collective efficacy) and unit leadership, have on the relationship between deployment related stressors and individual psychological well-being.

Research Background Questions and Hypotheses

The transactional theory of stress proposes that a stressor exists when an event or experience has been cognitively appraised as taxing or exceeding available resources (Lazarus & Folkman, 1984). Building upon the transactional theory of stress, Edwards (1992) recognized that social informational processes also serve to shape an individual's appraisal of the job situation by assigning meaning to the complexities of the job. Three underlying assumptions of social information processing theory (Salancik & Pfeffer, 1978) are pertinent to this study. First, the social context provides a socially constructed meaning of the environment. Second, the social environment focuses an individual's attention to those aspects of the environment that are deemed important. Third, social information processes are expected to exert even greater influence when elements of the work-place environment are vague and objective cues are not easily discerned. Thus, the social environment and the influence of others in the work place is expected to moderate the workplace stressor-strain relationship such that, "one can learn most about individual behavior by studying the information and social environment within which the behavior occurs" (Salancik & Pfeffer, 1978, p. 226).

Gal and Jones (1995) created a theoretical model of combat stress that recognized the influential role which unit leaders have in shaping the appraisal processes of subordinates in combat situations. Building upon their work, a multi-level conceptual model was proposed that incorporated three key forms of group influence identified in organizational research which would be evaluated at the group-level of analysis. These forms include, leader effectiveness, group cohesion, and collective efficacy. This study examined the extent to which the organizational characteristics, organized at the unit to which the soldier is assigned, moderated the relationships between individual operationally-related stressors and post-deployment psychological well-being. Four primary hypotheses (each with three sub-hypotheses) were proposed to examine the moderating effect of organizational social phenomenon on the deployment stressor-strain relationships.

Hypothesis 1. Operational stressors (mission ambiguity, concern for family well being, and exposure to potentially traumatic events) appraised at mid-deployment will be positively related to psychological distress at post-deployment.

Hypothesis 2. Group level ratings of leader behavior measured at mid-deployment will moderate the relationship between operational stressors and psychological distress.

Hypothesis 3. Group-level unit cohesion measured at mid-deployment will moderate the relationship between operational stressors and psychological distress.

Hypothesis 4. Group level collective efficacy measured at mid-deployment will moderate the relationship between operational stressors and psychological distress.

Methodology

Sampling. This study is based on secondary analysis of longitudinal data of U.S. Army service-members deployed in support of the NATO peacekeeping mission in Kosovo (Castro et al., 1999). Surveys were administered in two waves coinciding with the middle (approximately 3 months into the deployment) and post-deployment (approximately one-month after returning from a six-month deployment) periods using a purposive sampling strategy. While not a panel study by design, individuals who completed surveys for both time periods were included in this study ($n = 655$). These individuals represented 37 different Army companies or equivalent-sized organizations (84% of all companies surveyed at both time periods).

Measures. The predictor and outcome variables were derived from self-administered questionnaires. Group level ratings of leader effectiveness, group cohesion, and collective efficacy were obtained by aggregating individual responses to the US Army company to which the respondent was assigned. Klein and colleagues (1994) suggested that aggregating individual scores to create group- or higher-level measures is acceptable when it is clear that items direct the respondents attention to the predicted level of theory. In this study, aggregated items directed the respondent to consider the unit the individual is assigned to. For conceptual clarity, the unit is defined as the soldier's "company," as companies are the lowest level of command in which the commanding officer retains judicial authority over the soldiers. The group level scales were collected at the mid-deployment phase of the study.

Operational stressors were measured using three scales to capture (a) mission and role ambiguity (MAS), (b) concern for family well-being (FAM), and (c) exposure to potentially traumatic events (PES). All of the scales were created by researchers at the U.S. Army Walter Reed Army Institute of Research and, having been used in previous unpublished studies of deployed personnel, are considered to have face and content validity only. The measures were collected at the mid-deployment phase of the study and represent the contextual nature of stressor appraisal. The individual responses to these scales were used for this study and were not aggregated. The outcome measure was the General Health Questionnaire (GHQ; Goldberg & Hillier, 1979), a 12-item standardized scale designed to measure non-psychotic psychological symptoms of distress and was administered to respondents at mid- and post-deployment.

Analysis Strategy: The data were purposefully collected from individuals within naturally occurring clusters (i.e., US Army company) producing a hierarchical structure of the data. Such data is considered nested within a higher unit of analysis and is

optimally analyzed using multi-level modeling techniques. Hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002) was selected to test the hypotheses, determining the extent to which group, or organization, level variables affect individual-level outcomes. In the analyses, all individual level variables were group mean centered and reintroduced into the intercept equation to obtain the unique contribution of leader effectiveness measures on the outcome measure. Values for the GHQ obtained at mid-deployment were entered into the model as a fixed effect (GHQ₁) in the individual-level model to control for trait levels of psychological distress. In addition, previous studies of military personnel have observed that respondents age as inversely correlated with psychological distress and is entered into the model as a control variable. The full HLM model had the form,

Individual:

$$Y_{ij} = \beta_{0j} + \beta_{1j} (\text{MAS}) + \beta_{2j} (\text{FAM}) + \beta_{3j} (\text{PES}) + \beta_{4j} (\text{GHQ}_1) + \beta_{5j} (\text{AGE}) + r_{ij} \quad (\text{Eq. 1})$$

Group:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} W_j + u_{0j} \quad (\text{Eq. 2a})$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} W_j + u_{1j} \quad (\text{Eq. 2b})$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21} W_j + u_{2j} \quad (\text{Eq. 2c})$$

$$\beta_{3j} = \gamma_{30} + \gamma_{31} W_j + u_{3j} \quad (\text{Eq. 2d})$$

$$\beta_{4j} = \gamma_{40} \quad (\text{Eq. 2e})$$

$$\beta_{5j} = \gamma_{50} \quad (\text{Eq. 2f})$$

This model was estimated three times, once for each of the group-level variables. Initial examination of the completely unconditional model indicated that the variance component for the outcome measure was statistically significant ($\chi^2(36) = 65.94, p = .002$) providing statistical evidence of sufficient between group-variability for the outcome. The intraclass correlation coefficient (ICC) for the outcome measure was relatively low (.02) which suggests that approximately 2% of the total variance for the outcome measure was explained by group membership. Despite the relatively low ICC, the statistically significant finding for the variance component provides sufficient justification to proceed with the model building process. Finally, preliminary analysis of the data yielded no violations of the residual assumptions for both the individual-level model and the group-level model.

Results

The results of the random coefficient regression model revealed that mission ambiguity was the only operational stressor predictive of post-deployment psychological distress ($\gamma_{10} = 0.07, SE = 0.03, t(36) = 2.47, p = .02$), and, as expected, mid-deployment values of psychological distress were predictive of post-deployment psychological distress ($\gamma_{40} = 0.32, SE = 0.04, t(36) = 8.05, p < .001$). The group level hypotheses were tested using a modified HLM model with only mission ambiguity and mid-deployment GHQ values entered at the individual level.

The next analysis examined the potential moderating effect of organizational social phenomenon on the mission ambiguity and psychological distress relationship. None of the organizational-level variables predicted the within-groups relationship. However, a between-groups interaction of leader behavior and mission ambiguity with psychological distress was observed ($\gamma = 0.06$, $SE = 0.02$, $t(32) = 3.34$, $p = .003$). The nature of the interaction is such that when leader behavior lacks clear direction and support and the mission is perceived of as vague or ambiguous, soldiers, on average, are more likely to experience greater degrees of psychological distress than in units where leaders exhibit strong characteristics of directive and supportive behaviors. This discrepancy, however, diminishes as soldiers perceive the peacekeeping environment as meaningful and pertinent. This relationship is graphically depicted in Figure 1. In addition it was observed that leader behavior exerted a statistically significant inverse effect on average ratings of psychological distress ($\gamma = -2.91$, $SE = 0.80$, $t(32) = -3.36$, $p = .001$). This finding indicates that in units where the average rating of leader effectiveness was high the units mean value of psychological distress (i.e. the within-groups value) was lower than in units where leader effectiveness was rated low. The HLM model estimated using leader effectiveness as the group level also provided an additional 11% of the proportion of variance explained of the within-groups intercept (i.e., β_{0j}). Coupled together these results provide partial support for hypothesis 2. The results of this study reinforce the theory that leaders influence attitudes of subordinates which in turn positively affects psychological adaptation to potentially stressful environments.

Utility for Social Work Practice

The findings from this study highlight the importance of consultative activities performed by social workers serving in military operational assignments. It has been argued that one of the greatest lessons from the Vietnam war in respect to combat-related stress was the value of mental health prevention efforts focused on the individual soldier and the unit (Martin & Campbell, 1999). Preventive efforts aimed at role clarification and psychological preparation of individuals for their peacekeeping roles would appear to contribute to the reduction in role ambiguity and long term psychological distress. Such activities include, but are not limited to, communicating to unit leaders about the potential stressors associated with operational environments that may impede soldier psychological well-being and ultimately combat performance. As observed in this study, mission ambiguity clearly stands out as a potential stressor for soldiers involved in peacekeeping and humanitarian operations. In the past the purpose and meaning behind peacekeeping and humanitarian missions were less well established and not well accepted among soldiers. Thus, activities that serve to enhance purpose and meaning may contribute to enhanced psychological well-being.

Preventive and secondary interventions that foster effective leader behaviors as caring and supportive should also be strongly encouraged by uniformed social workers in military operational assignments. Most importantly, training leaders on differing aspects of human dimensions in combat and non-combat operations sensitizes them to the concerns of their soldiers. Similarly, social work consultants can use the information

from this study to provide empirical evidence to leaders regarding the influential role the leaders have in shaping the attitudes and behaviors of their subordinates. Effective leaders who are also informed about dimensions of human behavior in military operations have historically been the most respected leaders, as rated by their subordinates. The nature of the information shared with leaders should go beyond simply pathologizing behavior of subordinates but include information that encompasses a broader person-in-environment perspective unique to social work core knowledge.

Finally, this study points to the practical use of multi-level models to account for the dependency of individual observations when data are collected from individuals clearly nested within naturally occurring groups. Given that a statistically significant proportion of variance in the outcome variable was explained by group membership, ordinary least squares analysis would have yielded biased parameter estimates. Future research on individuals nested within groups must consider the extent to which group membership and social informational processes influence outcome measures, hence requiring more advanced analytic procedures to account for possible violations of assumptions inherent in multiple regression analytic techniques.

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Figure 1.

Graphical Depiction of the Moderating Relationship of Directive Leader Behaviors on the Relationship between Mission Clarity and Post-deployment Psychological Distress

